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EXAMINER
KHAN, MEHMOOD B

ART UNIT	PAPER NUMBER
2617	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

		Application No.	Applicant(s)
Office Action Summary		10/533,716	HERRMANN, CHRISTOPH
		Examiner	Art Unit	
		MEHMOOD B. KHAN	2617	

-- *The MAILING DATE of this communication appears on the cover sheet with the correspondence address* --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>27 November 2007</u>.

2a)☐ This action is **FINAL.**   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-19</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-19</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a)☒ All   b)☐ Some * c)☐ None of:

      1.☒ Certified copies of the priority documents have been received.

      2.☐ Certified copies of the priority documents have been received in Application No. _____.

      3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 101

1.   35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of
matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the
conditions and requirements of this title.

The USPTO "Interim Guidelines for Examination of Patent Applications for Patent

Subject Matter Eligibility" (Official Gazette notice of 22 November 2005) Section IV,

reads as follows:

Descriptive material can be characterized as either "functional descriptive

material" or "nonfunctional descriptive material." In this context, "functional descriptive

material" consists of data structures and computer programs which impart functionality

when employed as a computer component. (The definition of "data structure" is "a

physical or logical relationship among data elements, designed to support specific data

manipulation functions." The new IEEE Standard Dictionary of Electrical and Electronics

Terms 308 (5th ed. 1993).) "Nonfunctional descriptive material" includes but is not

limited to music, literary works and compilation or mere arrangement of data.

When functional descriptive material is recorded on some computer-readable

medium it becomes structurally and functionally interrelated to the medium and will be

statutory in most cases since use of technology permits the function of the descriptive

material to be realized. Compare In re Lowry, 32 F. 3d 1579, 1583-84, 32 USPQ2d

1031, 1035 (Fed. Cir. 1994) (claim to data structure stored on a computer readable

medium that increases computer efficiency held statutory) and Warmerdam, 33 F. 3d at

1360-61, 31 USPQ2d at 1759 (claim to computer having a specific data structure stored in memory to a data structure per se held nonstatutory.)

In contrast, a claimed computer-readable medium encoded with a computer program is a computer element which defines structural and functional interrelationships between the computer program and rest of the computer which permit the computer program's functionality to be realized, and is thus statutory. See Lowry, 32 F. 3d at 1583-84, 32 USPQ2d at 1035.

Claim 19 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter as follows.

Claim 19 defines a software program embodying functional descriptive material. However, the claim does not define a computer-readable medium or memory and is thus non-statutory for that reason (i.e., "When functional descriptive material is recorded on some computer-readable medium it becomes structurally and functionally interrelated to the medium and will be statutory in most cases since use of technology permits the function of the descriptive material to be realized" - Guidelines Annex IV). That is, the scope of the presently claimed computer program can range from paper on which the program is written, to a program simply contemplated or memorized by a person. The examiner suggests amending the claim to embody the program on "A computer readable medium encoded with computer executable instructions, the instructions comprising" or *equivalent* in order to make the claim statutory. Any amendment to the claim should be commensurate with its corresponding disclosure.

The USPTO "Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility" (Official Gazette notice of 22 November 2005) Section IV, reads as follows:

While abstract ideas, natural phenomena, and laws of nature are not eligible for patenting, methods and products employing abstract ideas, natural phenomena, and laws of nature to perform a real-world function may well be. In evaluating whether a claim meets the requirements of section 101, the claim must be considered as a whole to determine whether it is for a particular application of abstract idea, natural phenomenon, or law of nature, rather than for the abstract idea, natural phenomenon, or law of nature itself.

For claims including such excluded subject matter to be eligible, the claim must be for a practical application of the abstract idea, law of nature, or natural phenomenon. Diehr, 450 U.S. at 187, 209 USPQ at 8 ("application of a law of nature or mathematical formula to a known structure or process may well be deserving of patent protection."); Benson, 409 U.S. at 71, 175 USPQ at 676 (rejecting formula claim because it has no substantial practical application").

To satisfy section 101 requirements, the claim must be for a practical application of Sec. 101 judicial exception, which can be identified in various ways:

The claimed invention "transforms" an article or physical object to a different state or thing.

The claimed invention otherwise produces a useful, concrete and tangible result, based on the factors discussed below.

Claim Rejections - 35 USC § 102

2.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act

of 1999 (AIPA) and the Intellectual Property and High Technology Technical

Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting

directly or indirectly from an international application filed before November 29, 2000.

Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior

to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

3.   Claims 1, 4, 7, 9, 10, 13, 15, 17 and 19 are rejected under 35 U.S.C. 102(e) as

being anticipated by Seidel (EP 1156617).

Claim 1, Seidel discloses a method of transmitting data from a transmitter to a

receiver **(Abstract)**, Seidel discloses wherein the data is segmented into a plurality of

first data packets for transmission **(Abstract, where Seidel discloses segmentation)**,

Seidel discloses wherein the plurality of first data packets is provided with a

transmission sequence number **(0008, where Seidel discloses that it is well known**

that packets have a sequence number), Seidel discloses wherein a retransmission for

at least one second data packet of the plurality of first data packets is performed in case

the at least one second data packet was unsuccessfully decoded at the receiver **(0009, where Seidel discloses retransmission)**, Seidel discloses transmitting a third data packet from the transmitter to the receiver including information with respect to the at least one second data packet **(0012, where Seidel discloses sending the sequence number on a different channel for proper decoding and combining)**; Seidel discloses wherein the information relates to which of the at least one second data packet is at least partly sent again from the transmitter to the receiver **(0012, where Seidel discloses that a packet can be combined when the sequence number is sent)**.

Claim 4, Seidel discloses wherein the information is sent in a fourth, wherein the fourth data packet is scheduled next to be transmitted to the receiver **(Fig. 4, where Seidel discloses sequence numbers)**.

Claim 7, Seidel discloses a data transmission system for transmitting data from a transmitter to a receiver **(Abstract)**, wherein the data is segmented into a plurality of first data packets for transmission **(Abstract, where Seidel discloses segmentation)**, Seidel discloses wherein the plurality of first data packets is provided with a transmission sequence number **(0008, where Seidel discloses that it is well known that packets have a sequence number)**, Seidel discloses wherein a retransmission for at least one second data packet of the plurality of first data packets is performed in case the at least one second data packet was unsuccessfully decoded at the receiver **(0009,**

where Seidel discloses retransmission), Seidel discloses a receiver; and a

transmitter which is adapted for transmitting the data to the receiver **(0005, where**

Seidel discloses retransmission of PDUs and combining at a receiver); Seidel

discloses wherein the transmitter is adapted for transmitting a third data packet from the

transmitter to the receiver including information with respect to the at least one second

data packet **(0012, where Seidel discloses sending the sequence number on a**

different channel for proper decoding and combining); Seidel discloses wherein the

information relates to which of the at least one second data packet is at least partly sent

again from the transmitter to the receiver **(0012, where Seidel discloses that a packet**

can be combined when the sequence number is sent).

Claim 9, as analyzed with respect to the limitations as discussed in claim 4.

Claim 10, Seidel discloses a transmitter for transmitting data to a receiver **(0005,**

where Seidel discloses retransmission of PDUs and combining at a receiver),

Seidel discloses wherein the data is segmented into a plurality of first data packets for

transmission **(Abstract, where Seidel discloses segmentation)**, Seidel discloses

wherein the plurality of first data packets is provided with a transmission sequence

number **(0008, where Seidel discloses that it is well known that packets have a**

sequence number), Seidel discloses wherein a retransmission for at least one second

data packet of the plurality of first data packets is performed in case the at least one

second data packet was unsuccessfully decoded at the receiver **(0009, where Seidel**

discloses retransmission), Seidel discloses wherein the transmitter is adapted to transmit a third data packet from the transmitter to the receiver including information with respect to the at least one second data packet **(0012, where Seidel discloses sending the sequence number on a different channel for proper decoding and combining)**; Seidel discloses wherein the information relates to which of the at least one second data packet is at least partly sent again from the transmitter to the receiver **(0012, where Seidel discloses that a packet can be combined when the sequence number is sent)**.

Claim 13, as analyzed with respect to the limitations as discussed in claim 4.

Claim 15, Seidel discloses a receiver for receiving data transmitted from a transmitter **(0005, where Seidel discloses retransmission of PDUs and combining at a receiver)**, Seidel discloses wherein the data is segmented into a plurality of first data packets for transmission **(Abstract, where Seidel discloses segmentation)**, Seidel discloses wherein the plurality of first data packets is provided with a transmission sequence number **(0008, where Seidel discloses that it is well known that packets have a sequence number)**, Seidel discloses wherein a retransmission for at least one second data packet of the plurality of first data packets is performed in case the at least one second data packet was unsuccessfully decoded at the receiver **(0009, where Seidel discloses retransmission)**, Seidel discloses wherein the receiver is adapted for receiving a third data packet from the transmitter including information with

respect to the at least one second data packet **(0012, where Seidel discloses sending the sequence number on a different channel for proper decoding and combining)**; Seidel discloses wherein the information relates to which of the at least one second data packet is at least partly sent again from the transmitter to the receiver **(0012, where Seidel discloses that a packet can be combined when the sequence number is sent)**.

Claim 17, as analyzed with respect to the limitations as discussed in claim 4.

Claim 19, Seidel discloses a software program for controlling a data transmission between a transmitter and a receiver **(0005, where Seidel discloses retransmissions and a receiver, it is well known in the art that computer instructions, i.e. programs, are required to control the functions of hardware such as computer devices)**, Seidel discloses wherein the data is segmented into a plurality, of first data packets for transmission **(Abstract, where Seidel discloses segmentation)**, Seidel discloses wherein the plurality of first data packets is provided with a transmission sequence number **(0008, where Seidel discloses that it is well known that packets have a sequence number)**, Seidel discloses wherein a retransmission for at least one second data packet of the plurality of first data packets is performed in case the at least one second data packet was unsuccessfully decoded at the receiver **(0009, where Seidel discloses retransmission)**, Seidel discloses transmitting a third data packet from the transmitter to the receiver including information with respect to the at least one

second data packet **(0012, where Seidel discloses sending the sequence number on a different channel for proper decoding and combining)**; Seidel discloses wherein the information relates to which of the at least one second data packets is at least partly sent again from the transmitter to the receiver **(0012, where Seidel discloses that a packet can be combined when the sequence number is sent)**.

Claim Rejections - 35 USC § 103

4.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

>   (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5.   Claim 2, 3, 8, 11, 12 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Seidel (EP 1156617) in view of Ball et al. (US 2003/0070129 herein Ball).

        Claim 2, Seidel discloses wherein the receiver sends a negative acknowledge message to the transmitter for each of the at least one second data packets which was unsuccessfully decoded at the receiver **(Fig. 5: 280 and 290, where Seidel discloses a not acknowledged message and storing erroneous PDUs)**; Seidel discloses wherein the transmitter performs a retransmission for the at least one second data packet for which a negative acknowledgement message was received **(Abstract, 0005, where Seidel discloses retransmission of packets and different ARQ methods)**; Seidel discloses wherein the information indicates to the receiver a second fact; wherein

the second fact indicates for which of the at least one second data packet which

retransmission has been aborted, a new transmission is scheduled **(0046, where**

Seidel discloses scheduling a new transmission for a packet).

     Seidel does not disclose wherein the transmitter aborts retransmission for the

respective at least one second data packet after a preset number of unsuccessful

retransmissions.

     In an analogous art, Ball discloses wherein the transmitter aborts retransmission

for the respective at least one second data packet after a preset number of

unsuccessful retransmissions **(0003, where Ball discloses that a new transmission**

is requested when successful decoding is not possible). Therefore, it would have

been obvious to one of ordinary skill in the art at the time the invention was made to

modify Seidel to include aborting transmission of previously sent packets as taught by

Ball so as to allow for effective utilization of memory and storage **(0005)**.

     Claim 3, Seidel discloses wherein the transmitter generates a list at the time of a

generation of the information **(Fig. 4, where Seidel discloses sequence numbers)**;

Seidel discloses wherein the list contains the at least one second data packet and a

channel information with respect to this at least one second data packet; and wherein

the list is sent as the information **(0033, 0035, where Seidel discloses TFCI and**

sequence numbers and grouping the sequence numbers together).

     Claim 8, as analyzed with respect to the limitations as discussed in claim 2.

Claim 11, as analyzed with respect to the limitations as discussed in claim 2.

Claim 12, as analyzed with respect to the limitations as discussed in claim 3.

Claim 16, as analyzed with respect to the limitations as discussed in claim 2.

6.   Claims 5, 6, 14 and 18 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Seidel (EP 1156617) in view of Vayanos et al. (US 2005/0022098

herein Vayanos).

Claim 5, Seidel does not explicitly disclose wherein, upon receipt of the

information, the receiver purges in a reordering buffer all holes for seventh data packets

of the plurality of first data packets for which no successful decoding has been

performed except for the at least one second data packet indicated by the information.

In an analogous art, Vayanos discloses wherein, upon receipt of the information,

the receiver purges in a reordering buffer all holes for seventh data packets of the

plurality of first data packets for which no successful decoding has been performed

except for the at least one second data packet indicated by the information **(0013,

where Vayanos discloses flushing contents of a re-ordering entity)**. Therefore, it

would have been obvious to one of ordinary skill in the art at the time the invention was

made to modify Seidel to include a re-ordering entity as taught by Vayanos improve the

performance of stall avoidance **(0011).**

Claim 6, Seidel does not disclose wherein the transmitter sends the information to the receiver in at least a second case; wherein, according to the second case, the information is sent from the transmitter to the receiver when the transmitter interrupts the transmission of the plurality of first data packets for a transmission of first data packets of higher priority to the same receiver **(0061, Fig. 4: 410, where Vayanos discloses a priority entity to deliver packets based on priority).** Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Seidel to include a re-ordering entity as taught by Vayanos improve the performance of stall avoidance **(0011).**

Claim 14, as analyzed with respect to the limitations as discussed in claim 5.

Claim 18, as analyzed with respect to the limitations as discussed in claim 5.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to MEHMOOD B. KHAN whose telephone number is (571)272-9277. The examiner can normally be reached on Monday - Friday 8:30 am - 5:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Lester Kincaid can be reached on 571-272-7922. The fax phone number for

the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the

Patent Application Information Retrieval (PAIR) system. Status information for

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For more information about the PAIR system, see http://pair-direct.uspto.gov. Should

you have questions on access to the Private PAIR system, contact the Electronic

Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a

USPTO Customer Service Representative or access to the automated information

system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Mehmood B. Khan/
Examiner, Art Unit 2617

/Lester Kincaid/
Supervisory Patent Examiner, Art Unit 2617